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POLITICS AND POLICY

Governors of 3 West Coast States Join to Combat Global Warming

By **JEFFREY BALL**
Staff Reporter of THE WALL STREET JOURNAL

In the latest effort by states to move more aggressively than the federal government against global warming, the Democratic governors of California, Oregon and Washington are expected to announce Monday that they will work together to reduce greenhouse-gas emissions up and down the West Coast through moves such as buying more hybrid cars for state-government fleets.

Unlike moves already under way in some states, the Western initiative, at least initially, isn't proposing actual government caps on greenhouse-gas emissions. Already, California has passed a state law mandating cuts in greenhouse-gas emissions from automobiles -- a law that auto makers have said they plan to sue to overturn -- and several East Coast states are considering capping greenhouse-gas emissions from power plants. By contrast, the West Coast push to be announced Monday will seek a "public-private partnership" to combat global warming, said one California official familiar with the planning.

Many of the details of the West Coast initiative have yet to be worked out. And exactly how the three states will pay for it is unclear, particularly with California mired in a deep budget deficit. The announcement comes as California Gov. Gray Davis is fighting to survive a recall bid in a state where polls suggest large numbers of voters think global warming is a problem.

California's Gov. Davis, Washington Gov. Gary Locke, and Oregon Gov. Ted Kulongoski also are expected to signal a push for increased use of renewable energy and energy-efficient appliances in their states, according to several people familiar with the planning of the announcement. California already has passed a law mandating that 20% of the electricity produced by investor-owned utilities come from renewable rather than fossil-fuel sources by 2017. "Maybe we can get there faster," the California official familiar with the planning said.

In addition, the governors are expected to announce they want to encourage the use of nondiesel generators at shipping ports and at truck stops, so ships and trucks don't have to keep running their diesel engines while they are sitting idle, several people familiar with the plans said. Burning fuel produces carbon dioxide, believed to be one of the chief gases trapping heat like a greenhouse around the Earth. Transportation is a major source of greenhouse-gas emissions, particularly in California, where the vast majority of power plants are fueled by more-efficient natural gas instead of coal.

The governors are likely to advocate their new initiative as a retort to what they believe is insufficient action by the Bush administration on global warming, people familiar with the planning said. The Bush administration has rejected the Kyoto Protocol, the international treaty that would force cuts in U.S. greenhouse-gas emissions, as likely to cripple the nation's economy. Instead, the administration has

proposed a voluntary move by U.S. industry to slow the growth of its greenhouse-gas emissions, a move generally supported by industry but criticized by environmentalists as too little. And last month, the administration announced it doesn't believe it has the legal authority to regulate greenhouse gases as air pollutants, saying Congress would need to change the nation's environmental laws to give the administration that authority.

The plan to buy more-efficient vehicles, including hybrid gasoline-and-electric cars, for the three states' fleets could amount to a significant increase in the market for hybrids, which now are sold in the U.S. only by **Honda Motor** Co. and **Toyota Motor** Corp. and amount to less than 0.5% of the total U.S. new-vehicle market.

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**Economist.com**

WORLD

NORTH AMERICA**Climate change****Bottom-up greenery**

Mar 18th 2004 | NEW YORK

From The Economist print edition

Local activism may force George Bush to take action on global warming

COULD the next grass-roots revolution in America be over climate change? George Bush stomped out of the UN's Kyoto treaty on global warming three years ago and did a U-turn on campaign pledges to regulate emissions of carbon dioxide (CO₂). Since then, he has refused to come up with sensible domestic policies. Yet that very obstinacy has fomented a backlash in the states.

Massachusetts led the way by imposing curbs on CO₂ emissions from power plants. The New England states have also joined the eastern provinces of Canada in vowing to cut emissions of greenhouse gases by 12% by the end of the decade. Emboldened by this, a dozen states and three cities sued the Environmental Protection Agency in October for refusing to treat CO₂, the chief greenhouse gas, as a pollutant.

Not to be outdone by Yankees, California, Oregon and Washington have now banded together to tackle climate change. California has passed the country's first law regulating emissions of greenhouse gases from cars. If the law survives legal challenges, New York and several other states, as well as Canada, have said they may do the same. A tough fight is coming; Governor Arnold Schwarzenegger says he isn't budging.

Does all this add up to a credible alternative to Kyoto? Not really. Climate change is not a local matter. Even the most innovative state is tightly linked to the energy-guzzling North American economy. Three years into their ten-year plan to curb emissions by 12%, for example, New Englanders have not managed to cut CO₂ emissions at all.

Still, this grass-roots revolt may yet succeed. For one thing, big business wants action. A report released this week by the Aspen Institute and the Pew Centre on Global Climate Change—two think-tanks that have discussed the matter with executives from the energy, mining and car industries—concludes that “a mandatory greenhouse gas reduction programme for the US could be both effective and politically feasible.”

An even better reason is the clamour for reform by Republican governors. In California, Massachusetts and New York it is Mr Bush's own allies making trouble. And at the federal level, it is Senator John McCain. His bill to force mandatory action on climate change lost a Senate vote late last year, but got an impressive 43 votes. He vows to keep introducing it until it passes.

Ultimately, argues Barry Rabe of the University of Michigan, the states may serve (as so often in the past) as laboratories for subsequent federal policy. And if the activity in the statehouses continues to bolster Mr McCain and other Republican rebels, national change could come sooner rather than later.

The Warming Is Global but the Legislating, in the U.S., Is All Local

October 29, 2003



Peter DaSilva for The New York Times

Workers installed solar panels atop the San Francisco convention center in August, a result of a new California energy initiative.

By Jennifer Lee

Motivated by environmental and economic concerns, states have become the driving force in efforts to combat global warming even as mandatory programs on the federal level have largely stalled.

At least half of the states are addressing global warming, whether through legislation, lawsuits against the Bush administration or programs initiated by governors.

In the last three years, state legislatures have passed at least 29 bills, usually with bipartisan support. The most contentious is California's 2002 law to set strict limits for new cars on emissions of carbon dioxide, the gas that scientists say has the greatest role in global warming.

While few of the state laws will have as much impact as California's, they are not merely symbolic. In addition to caps on emissions of gases like carbon dioxide that can cause the atmosphere to heat up like a greenhouse, they include registries to track such emissions, efforts

to diversify fuel sources and the use of crops to capture carbon dioxide by taking it out of the atmosphere and into the ground.

Aside from their practical effects, supporters say, these efforts will put pressure on Congress and the administration to enact federal legislation, if only to bring order to a patchwork of state laws.

States are moving ahead in large part to fill the vacuum that has been left by the federal government, said David Danner, the energy adviser for Gov. Gary Locke of Washington.

"We hope to see the problem addressed at the federal level," Mr. Danner said, "but we're not waiting around."

There are some initiatives in Congress, but for the moment even their backers acknowledge that they are doomed, given strong opposition from industry, the Bush administration — which favors voluntary controls — and most Congressional Republicans.

This week, the Senate is scheduled to vote on a proposal to create a national regulatory structure for carbon dioxide. This would be the first vote for either house on a measure to restrict the gas.

The proposal's primary sponsors, Senator John McCain, Republican of Arizona, and Senator Joseph I. Lieberman, Democrat of Connecticut, see it mainly as a way to force senators to take a position on the issue, given the measure's slim prospects.

States are acting partly because of predictions that global warming could damage local economies by harming agriculture, eroding shorelines and hurting tourism.

"We're already seeing things which may be linked to global warming here in the state," Mr. Danner said. "We have low snowpack, increased forest fire danger."

Environmental groups and officials in state governments say that energy initiatives are easier to move forward on the local level because they span constituencies — industrial and service sectors, Democrat and Republican, urban and rural.

While the coal, oil and automobile industries have big lobbies in Washington, the industry presence is diluted on the state level. Environmental groups say this was crucial to winning a legislative battle over automobile emissions in California, where the automobile industry did not have a long history of large campaign donations and instead had to rely on a six-month advertising campaign to make its case.

Local businesses are also interested in policy decisions because of concerns about long-term energy costs, said Christopher James, director of air planning and standards for the Connecticut Department of Environmental Protection. As a result, environmental groups are shifting their efforts to focus outside Washington.

Five years ago the assumption was that the climate treaty known as the Kyoto Protocol was the only effort in town, said Rhys Roth, the executive director of Climate Solutions, which

works on global warming issues in the Pacific Northwest states. But since President Bush rejected the Kyoto pact in 2001, local groups have been emerging on the regional, state and municipal levels.

The Climate Action Network, a worldwide conglomeration of nongovernment organizations working on global warming, doubled its membership of state and local groups in the last two years.

The burst of activity is not limited to the states with a traditional environmental bent.

At least 15 states, including Texas and Nevada, are forcing their state electric utilities to diversify beyond coal and oil to energy sources like wind and solar power.

Even rural states are linking their agricultural practices to global warming. Nebraska, Oklahoma and Wyoming have all passed initiatives in anticipation of future greenhouse-gas emission trading, hoping they can capitalize on their forests and crops to capture carbon dioxide during photosynthesis.

Cities are also adopting new energy policies. San Franciscans approved a \$100 million bond initiative in 2001 to pay for solar panels for municipal buildings, including the San Francisco convention center.

The rising level of state activity is causing concern among those who oppose carbon dioxide regulation.

"I believe the states are being used to force a federal mandate," said Sandy Liddy Bourne, who does research on global warming for the American Legislative Exchange Council, a group contending that carbon dioxide should not be regulated because it is not a pollutant. "Rarely do you see so many bills in one subject area introduced across the country."

The council started tracking state legislation, which they call son-of-Kyoto bills, weekly after they noticed a significant rise in greenhouse-gas-related legislation two years ago. This year, the council says, 24 states have introduced 90 bills

that would build frameworks for regulating carbon dioxide. Sixty-six such bills were introduced in all of 2001 and 2002.

Some of the activity has graduated to a regional level. Last summer, Gov. George E. Pataki of New York invited 10 Northeastern states to set up a regional trading network where power plants could buy and sell carbon dioxide credits in an effort to lower overall emissions. In 2001, six New England states entered into an agreement with Canadian provinces to cap overall emissions by 2010. Last month, California, Washington and Oregon announced that they would start looking at shared strategies to address global warming.

To be sure, some states have decided not to embrace policies to combat global warming. Six — Alabama, Illinois, Kentucky, Oklahoma, West Virginia and Wyoming — have explicitly passed laws against any mandatory reductions in greenhouse gas emissions.

"My concern," said Ms. Bourne, "is that members of industry and environment groups will go to the federal government to say: 'There is a patchwork quilt of greenhouse-gas regulations across the country. We cannot deal with the 50 monkeys. We must have one 800-pound gorilla. Please give us a federal mandate.'"

"Indeed, some environmentalists say this is precisely their strategy.

States developed their own air toxics pollution programs in the 1980's, which resulted in different regulations and standards across the country. Industry groups, including the



American Chemistry Council, eventually lobbied Congress for federal standards, which

were incorporated into the 1990 Clean Air Act amendments.

A number of states are trying to compel the federal government to move sooner rather than later. On Thursday, 12 states, including New York, with its Republican governor, and three cities sued the Environmental Protection Agency for its recent decision not to regulate greenhouse-gas pollutants under the Clean Air Act, a reversal of the agency's previous stance under the Clinton administration.

"Global warming cannot be solely addressed at the state level," said Tom Reilly, the Massachusetts attorney general. "It's a problem that requires a federal approach."



Chicago Tribune
Melita Marie Garza
July 4, 2004

States Take Lead in Clean Air Quest

States from California to New England are leading the charge to cut toxic emissions of greenhouse gases from power plants, autos, and new building construction, undeterred by federal foot-dragging on the issue.

States are taking action because dramatic temperature shifts have created havoc with everything from wetlands to wildlife. For example, warmer temperatures in New Hampshire have caused maple trees to die off in the southern part of the state.

In British Columbia, hotter, drier weather has fed huge forest fires, creating havens for the mountain pine beetle, which attacks weakened trees.

"It's just devastating their forests," said Barry Rabe, a professor of environmental policy at the Gerald R. Ford School of Public Policy at the University of Michigan. "These are states that are beginning to see some significant changes in their climate and some pretty serious disruptions," Rabe said.

Environmentalists say the states are prodding the federal government to take action on carbon dioxide, which is created by burning coal, gasoline and other fossil fuels. Carbon dioxide emissions are a leading cause of climate change.

"The national government is very close to a tipping point from doing nothing to taking serious action," said David Doniger, policy director for the National Resources Defense Council Climate Center.

The state actions come despite U. S. rejection of the international Kyoto Protocol that would have limited carbon dioxide emissions, and Congress' failure to pass legislation to curb carbon dioxide pollution.

"It's one thing when we talk about climate change and 'The Day After Tomorrow,' Rabe said, referring to the recently released apocalyptic movie that depicts the U. S. beset by weather catastrophes from coast-to-coast as a result of greenhouse gas emissions.

"It's another, when we see states take increasingly significant steps to reduce the greenhouse gases," he said.

The pattern of states filling a policy void left by Congress and the executive branch is not unprecedented.

The federal Social Security program was modeled on a program that had been implemented in Wisconsin. Likewise, some Northern states passed civil rights legislation before President Lyndon Johnson won congressional approval of a federal civil rights act.

In dealing with climate issues, the federal government largely has been gridlocked. States have used their regulatory clout, particularly in the area of energy development and electric utilities, to jump into the matter.

Minnesota was one of the first states to take action on climate change when it enacted legislation in 1993 to consider the impact of carbon dioxide releases in evaluating energy development. In 1997, Oregon went further, setting limits for how much carbon dioxide could be released from new power plants.

More recently, states such as Massachusetts and New Hampshire are requiring carbon emissions reductions for all existing plants.

The momentum is continuing. The Western Governors' Association recently agreed to set regional renewable energy goals, which aim to provide energy security while cutting greenhouse gases and other pollutants.

The three largest cities in the U. S. also have gotten into the act. As a result of a campaign by the International Council for Local Environmental Initiatives, Chicago, New York City and Los Angeles have started measuring the amount of greenhouse gas pollutants emanating from their communities. Chicago and Los Angeles have adopted Climate Action Plans to cut greenhouse gas emissions, and New York's is on the way.

California's role in setting emissions standards from automobiles goes back to the 1960s, when, beset by smog, the state began curbing tailpipe pollution well in advance of the Clean Air Act of 1970.

After federal regulations were enacted, California continued setting its own standards.

In 2002, California passed legislation that required the state to come up with ways to limit carbon dioxide emissions from cars.

The recently announced plan would require manufacturers to reduce carbon dioxide emissions between the 2009 and 2011 model years by 22 percent, and reduce them by a total of 30 percent by 2015.

Several northeastern states, including New York, adopted the earlier, tougher 1963 California standards and will join its new effort to cut auto carbon dioxide emissions.

Canada also is considering following California, and if it joined in the effort, manufacturers would be required to produce vehicles with lower carbon dioxide emissions for about one third of the North American automobile market.

Illinois has shown no inclination to adopt the California model.

"The big middle of the car market has yet to address the issue," said Bruce Nilles, the Sierra Club's senior Midwest representative. "If Illinois were to switch--the significant size of our car market would create a tremendous incentive for the automakers to just make one cleaner, less-polluting car at little or no extra cost. "

Seth Kaplan, senior attorney with the Conservation Law Foundation, said: "The car companies are rattling their sabers about two things related to the California initiative. They argue carbon dioxide can't be regulated through this law because it is not designated as a pollutant under the Clean Air Act.

"But the act defines a pollutant as a `substance that can cause harm. ' Even the Bush administration's 2002 Climate Action Report says carbon dioxide is a pollutant," Kaplan said.

The opposition also argues that California is trying to make an end run around the federal government, which alone has the authority to set fuel efficiency standards. The companies note that some of the proposed engineering changes to cut greenhouse gas emissions also affect fuel economy.

After California passed the legislation in 2002, the Alliance of Automobile Manufacturers raised the possibility that it might sue the state.

Wait-and-see approach

Now the alliance seems to be taking a wait-and-see approach.

"We are reviewing the draft standards to examine the technical feasibility, economic impact and cost effectiveness of the proposal," said Gloria Bergquist, a spokeswoman for the alliance.

Still, said Doniger, of the National Resources Defense Council: "What California does on motor vehicles is the bellwether for what will be adopted nationally. They have never stopped a California air pollution control initiative in the past. A waiver from the federal government has never been denied before. I am quite confident that California will win even if it faces legal opposition from car companies and the feds. "

Significantly, the state actions are bipartisan, with Republicans such as California Gov. Arnold Schwarzenegger pledging to uphold and defend the new standards and New York's Republican Gov. George Pataki committing his state to join California.

In Massachusetts, Republican Gov. Mitt Romney recently unveiled a climate protection plan that would make the Bay State the first to evaluate carbon dioxide emissions before approving state construction and road projects.

Pataki also spearheaded the formation of an 11-state group in the Northeast that is developing its own cap-and-trade system for carbon dioxide emissions from power plants. The program would set a regional limit for how much carbon dioxide a plant could produce and allow emitters who produce less than allowed to trade credits with those that exceed the cap.

The plan, similar to a successful federal cap-and-trade system to curtail acid rain, is advancing in the wake of congressional failure to establish a national cap-and-trade program.

One of the more significant federal legislative efforts, the "Climate Stewardship Act" proposed by Sen. Joseph Lieberman (D-Conn.) and Sen. John McCain (R-Ariz.), won 43 votes in the Senate last session and is being reintroduced with some modifications.

"Our critics would have you believe that John McCain and I are wild-eyed enviros," Lieberman said at a recent conference held by the Pew Center on Global Climate Change and the Brookings Institution. "All we are asking businesses and industry to do by the end of the decade is to hold their emissions to what they were in 2000. The average person on the street, I think, will see this as a reasonable thing to ask. "

Of course, not all states have eagerly embraced climate change initiatives.

In 1998 and 1999, 16 states, including Illinois, passed anti-Kyoto legislation. The Illinois law bars state agencies from adopting new rules to reduce greenhouse gas.

Yet the state last week joined 10 other states and 14 environmental and citizen groups in filing a legal brief that asserts that the Clean Air Act gives the U. S. Environmental Protection Agency the authority to regulate greenhouse gas emissions from motor vehicles.

Illinois standards

And earlier this year a law was passed setting energy efficiency standards for office and commercial buildings designed to cut electricity consumption and its polluting byproducts.

Dennis McMurray, a spokesman for the Illinois EPA, said several state agencies are researching previous studies about the effect of carbon dioxide emissions on Illinois and are compiling a list of the state's actions to reduce the pollutant.

Nilles, of the Sierra Club, said: "I would give Illinois an 'A' for what they are doing on the national level, but a 'D' on stuff they could be doing locally to reduce greenhouse gas emissions."

Air-cleaning actions

New Jersey

- 1989: Gov. Thomas Kean issued an executive order urging state agencies to take the lead in cutting greenhouse gas emissions.
- 1994: Developed a greenhouse gas inventory and state action plan.

Wisconsin

- 1993: Required largest emitters of carbon dioxide, from pizza plants to utilities, to report the amount of emissions annually.

Minnesota

- 1993: Passed legislation requiring an analysis of the cost of environmental damage of carbon dioxide emissions from proposed electric power plants.

Oregon

- 1997: Passed legislation limiting carbon dioxide emissions from new power plants; also requiring such plants to offset 17 percent of their carbon dioxide emissions through mitigation projects, such as planting trees.

Texas

- 1999: Electricity restructuring law signed by then Gov. George W. Bush required utilities to steadily increase electricity generated from renewable, noncarbon dioxide emitting sources; on track to generate 3 percent to 4 percent of electricity from wind and other sources by 2009.

Massachusetts

- 2000: Required the state's six existing power plants to cut carbon dioxide and other major pollutants.
- 2004: Issued comprehensive Climate Protection Plan; member of the Northeastern states initiative to form a system to cap-and-trade greenhouse gas emissions.

New Hampshire

- 2002: Required its three fossil fuel power plants to reduce carbon dioxide emissions; member of the Northeastern states initiative.

California

- 2002: First state to pass legislation requiring automakers to cut greenhouse gas emissions from motor vehicles.

Washington

- 2004: Law enacted requiring new fossil fuel electric power plants to offset 20 percent of their carbon dioxide emissions through mitigation projects.

Connecticut

- 2004: Law established a state goal to reduce greenhouse gas emissions to 1990 levels by 2010, to 10 percent below 1990 levels by 2020, and eventually to a level 75 to 80 percent below current levels.

Sources: Pew Center on Global Climate Change; "Statehouse and Greenhouse: The Emerging Politics of American Climate Change Policy," by Barry Rabe "The big middle of the car market has yet to address

from the October 10, 2003 edition - <http://www.csmonitor.com/2003/1010/p01s03-usgn.html>

States take the lead on global warming

Ten states are set to up the environmental ante, suing administration for tighter energy controls.

By [Brad Knickerbocker](#) | Staff writer of The Christian Science Monitor

Confronting climate change - which most scientists now say is real - is a worldwide effort. That's why it's called "global warming."

But as nations continue to argue over the Kyoto agreement and other multinational approaches, and as Congress considers an energy bill that would expand fossil-fuel production, state governments are taking the lead in reducing the greenhouse gases that seem to be sending temperatures upward.

Ten states are about to sue the administration to force the EPA to regulate greenhouse gases. Fourteen states, including President Bush's home state of Texas, now require utilities to generate part of their power from renewable sources.

One region - the Northeast - is following its own Kyoto-like path. New England states and five eastern Canadian provinces have set goals to reduce greenhouse gases to 1990 levels by 2010, then reduce them another 10 percent by 2017.

Similarly, governors on the West Coast recently announced a joint strategy to reduce global warming. Included in this effort: using their combined purchasing power to buy fuel-efficient vehicles for official use; developing uniform appliance-efficiency standards; collaborating to measure and report greenhouse-gas emissions; reducing the use of diesel generators on ships in California, Oregon, and Washington State ports.

It's not just a matter of wanting to enjoy a clearer view of the region's spectacular mountains and coastlines.

"This is a matter of economic necessity," says Oregon Gov. Ted Kulongoski (D). "Global warming is a real phenomenon, which affects us in many ways, from increasingly costly forest fires to encroaching seas."

Barry Rabe, who teaches environmental policy and political science at the University of Michigan, Ann Arbor, finds that "the current level of state activity surrounding the issue of climate change is striking."

The climate of change

In a study of state programs for the Pew Center on Global Climate Change, Dr. Rabe found a variety of initiatives around the country - many of them far in advance of what the federal government is doing.

"Measures that have proven controversial at the federal level, such as renewable portfolio standards and mandatory reporting of greenhouse-gas emissions, have been implemented at the state level, often with little dissent," he says.

For example, says Eileen Claussen, president of the Pew center and former assistant secretary of state in charge of environmental and scientific affairs, Texas and 13 other states now require utilities to generate a specified share of their power from renewable sources.

"Three [states] have established reporting programs for greenhouse-gas emissions, and two of these are mandatory programs," Ms. Claussen recently told state environmental officials from around the country at a meeting in Salt Lake City. "In addition, two states have overall caps on their emissions, and one state, California, is working on direct controls on emissions from motor vehicles."

Then there is New York State, she said: Under Republican Gov. George Pataki, New York has created a regional market in which power plants can buy and sell carbon-dioxide credits. Nine of 10 states have told the governor they're interested in collaborating on emission reductions across the region.

One striking thing about such efforts to stem global warming is that both Republicans and Democrats generally support them.

Even Arnold Schwarzenegger, governor-elect of California and an enthusiastic owner of a General Motors gas-guzzling Hummer, vowed in his campaign that "Under my administration, the state will lead by example - identifying and permanently retiring those heavily used vehicles that do the greatest harm to our air quality." Mr. Schwarzenegger also embraced a new state law that requires cars and trucks to emit less carbon dioxide, suggesting that he would retrofit his Hummer (with a gas mileage of 10 to 13 m.p.g.) to run on clean-burning hydrogen.

Greenhouse and statehouse

At issue between states and the Bush administration (and the subject of the lawsuit) is whether to consider carbon dioxide - one of the main greenhouse gases - as a "pollutant" regulated under the federal Clean Air Act. The Environmental Protection Agency under Bush says "no"; the states say "yes."

California officials are particularly concerned that the EPA's position will make it easier for auto manufacturers to challenge the state's first-ever law restricting vehicles' greenhouse-gas emissions. Connecticut, Illinois, Maine, Massachusetts, New Jersey, New York, Oregon, Washington, and Vermont are expected to join the suit.

Rabe at the University of Michigan and other observers see such state efforts as models for federal action. Still, they acknowledge that state programs addressing climate change are no substitute for a nationwide effort directed by Washington.

Whether acting alone or in groups, states also face stiff obstacles.

They are constitutionally limited in what they can do in areas involving international relations. And many are cash-strapped, required to balance state budgets that are as shaky as they've been in decades.

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SEATTLE POST-INTELLIGENCER

Balance of Healthy Environment, Jobs

Sunday, March 28, 2004

SEATTLE POST-INTELLIGENCER EDITORIAL BOARD

When people worry about jobs, there's a temptation to let the environment pay the price. The Washington state Legislature this year remarkably avoided playing into that phony choice between a good economy and a healthy environment.

For the first time in recent memory, lawmakers rejected all attempts to roll back existing rules. With impressive bipartisan cooperation, the Legislature and Gov. Gary Locke created modest but significant gains for the environment.

The Legislature approved requiring new power plants to mitigate a share of their carbon dioxide emissions, a key factor in global warming. Lawmakers directed the Ecology Department to draw up much-needed new rules on deploying booms or other oil-spill protection devices during boats' fuel-transfer operations. And the Legislature put new money into ensuring adequate stream flows for salmon, and moved forward on a study dealing with dangerous levels of mercury and other toxins that accumulate in the human body.

Lawmakers could have done more, such as following Rep. Mike Cooper's suggestion of immediate action on oil-spill containment. Still, it's a good record.

Unaccustomedly strong leadership from Gov. Gary Locke, sometimes behind the scenes, contributed significantly. So too did the Democratic legislators' continuing commitment to a healthy Washington. But many staunch environmental advocates also give significant credit to Republican legislators.

In this state, environmental awareness crosses all the lines, whether political, geographic or economic. "A healthy economic strategy is a healthy environmental strategy," argues Clifford Traisman, Olympia lobbyist for both the Washington Environmental Council and the Washington Conservation Voters. Indeed, many companies are attracted to the recreational opportunities, scenery and generally healthy atmosphere.

Those considerations certainly came into play in a year when jobs were on every mind. Republican Senate Majority Leader Bill Finkbeiner said his caucus consciously looked for opportunities to both protect the environment and help companies. In some cases, though, Republicans simply judged environmental action to be worth modest tradeoffs for businesses.

Such good judgment is desperately needed in the other Washington. Especially on global warming, the West Coast and New England are trying to fill some of the vacuum created

by federal inaction.

The bipartisan support he won on carbon dioxide emissions puts Gov. Locke in good position as Oregon, California and Washington decide on new actions on global warming later this year. With California's new Republican Gov. Arnold Schwarzenegger reportedly determined to move ahead, the West Coast may be about to show again that protecting the environment can transcend political and economic challenges.

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Group tackles global warming

Panel will make recommendations to Gov. Kulongoski

BETH CASPER
Statesman Journal
August 19, 2004

A group of business leaders, environmentalists, scientists and community members is doing what no one feels comfortable doing: recommending strategies that will show results in 15 to 50 years about the issue of global warming.

They are Gov. Ted Kulongoski's global warming advisory group, charged with finding ways to reduce greenhouse-gas emissions in Oregon.

On Wednesday, the group agreed to recommend several major measures to the governor.

The measures already are drawing criticism from business leaders and, in turn, people who want stricter standards regarding emissions.

The dozens of recommendations will be open to public comment in the fall.

The measures include:

Implementing energy-efficiency standards — for example, upgrading building codes and creating state appliance-efficiency standards.

Creating a task force to study how Oregon can adopt California's stricter standards for tailpipe emissions for cars.

In California, government staff members are working on new rules that would require automakers to sell only vehicles that achieve the "maximum feasible and cost-effective reduction of greenhouse gas emissions." It would take effect with the 2009 models.

California's legislators still need to vote on the new rules, and many experts agree that adoption of the rules will draw a lawsuit from auto manufacturers.

Paul Cosgrove, an Oregon lobbyist for the Alliance of Automobile Manufacturers, said not only would it be premature for Oregon to adopt California standards until such a lawsuit is resolved, but there are other, better ways to reduce greenhouse gases.

"I don't think there is any dispute that maintaining or reducing greenhouse gases is probably a very worthy thing to do," Cosgrove said. "The question that comes before Oregon and any other state is what can the state realistically do as a small state. We believe there are lots of things that wouldn't involve this controversy, like using and promoting the existing credits from the Department of Energy for hybrids and high-efficiency vehicles."

Jeff Allen, executive director of the Oregon Environmental Council, said that big changes need to happen now if greenhouse gases are going to be reduced.

"What it comes down to is the governor convened this group to help him make some hard decisions," he said. "We need to tell him that Oregon's cars need to be as clean as California's cars We are talking about the need for some very fundamental changes."

Group members, however, are not disagreeing on the need for reducing greenhouse gases, which trap heat in the atmosphere.

The state already had adopted a goal of holding carbon dioxide emissions at 1990 levels. Each of the group members studied a graph, which showed:

By doing nothing, greenhouse gas emissions in 2025 will be 65 percent above 1990 levels.

By implementing some of the group's recommendations, the emissions will be 54 percent above 1990 levels in 20 years.

Only by adopting all of the proposals talked about among the group, including finding ways to "trap" carbon dioxide, will Oregon's emissions in 2025 get close to 1990 levels.

According to the Oregon Department of Energy, the concentration of carbon dioxide has increased 35 percent in the atmosphere since industrialization. The Earth has warmed by more than 1 degree during the past century. The nine warmest years in this century occurred in the 1980s and 1990s.

According to Jane Lubchenco, Oregon State University professor of zoology, "Changing our energy practices should be one of our highest priorities. If we care about the world that we will leave for our children and our grandchildren, we will change our energy practices — and do it soon."

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The New York Times

ON THE WEB

New York Times

Editorial

July 12, 2004

Signs of Energy

The last three years have given the country more than enough reasons to re-examine its energy policies: a power crisis in California, a blackout in the East, global warming, sharply higher prices for gasoline, tighter markets for natural gas and now a stubborn war in the heart of the biggest oil patch in the world. Clearly, we need a disciplined program to use more efficiently the fossil fuels we now have, coupled with aggressive efforts to develop renewable sources of energy. Yet neither a divided Congress nor a disengaged administration seems capable of delivering that strategy.

There is, however, one cause for cheer, and that is the increasing willingness of states and the private sector to fill the policy vacuum. The most obvious recent example is California's ambitious proposal to require automakers to cut emissions of carbon dioxide and other gases linked to global warming. Less obvious but no less important is the palpable interest at the state level and in the investment community in alternative energy sources — not just familiar sources like wind power, which is becoming increasingly cost-effective, but also more exotic sources like biofuels from plants and other organic matter. California's treasurer, Phil Angelides, has persuaded two state pension funds to risk \$450 million in venture capital to promote alternative fuels and new technologies.

Meanwhile, 13 states have adopted mandatory "renewable portfolio standards" requiring that a fixed percentage of energy sold in-state come from alternative fuel sources. This number will almost certainly grow. With Gov. George Pataki's backing, New York's Public Service Commission

has proposed that fully one-fourth of the state's energy be generated by renewable sources within the next decade. And last month, governors of nine Western states formally signed on to a plan developed by Gov. Arnold Schwarzenegger of California and Gov. Bill Richardson of New Mexico that commits the region to developing 30,000 megawatts of electricity — about 15 percent of current demand — from renewable sources by 2015.

None of this eliminates the need for unified federal policies; a crazy-quilt pattern of state laws could ultimately do more harm than good. Tough rules on global warming emissions in one region, for instance, could persuade businesses to move to states with weaker laws. National renewable energy goals — which Congress has repeatedly rejected — would also make sense. Ultimately, only Washington has the resources to move the country to a plainer and more efficient energy future.

What the states and even traditional fossil fuel companies like BP — which has committed itself to major reductions of greenhouse gases — are telling us is that they are prepared to help guide that transformation, even as Congress and the administration drag their feet. Their efforts reflect a real longing to do something meaningful. They may also have the salutary effect of forcing energy-related issues, as complicated as they can be, onto the campaign agenda. What's important here is not the momentary inconvenience of higher gas prices, but more fundamental matters involving the environment, health and — given our dependence on imported fuels — national security.

San Jose Mercury-News, March 29, 2004

Valley firms to fight global warming

COALITION HOPES INNOVATION WILL ENTICE OTHER REGIONS

**By Paul Rogers
Mercury News**

In one of the first programs of its kind in the United States, a coalition of major Silicon Valley companies is set to announce today a plan to reduce greenhouse gas emissions to collectively combat global warming.

The companies -- Hewlett-Packard, Oracle, Calpine, Lockheed, ALZA, Life Scan and PG&E -- along with the city of San Jose, NASA Ames Research Center and the Santa Clara Valley Water District, will set a goal of cutting Santa Clara County's carbon dioxide emissions to 20 percent below 1990 levels by 2010.

If successful, such a reduction would be more than triple the goal set by the still-stalled Kyoto agreement on global warming. It would be as effective as removing 1.1 million cars from Silicon Valley roads.

Carbon dioxide is formed in part by the burning of fossil fuels such as gasoline, coal and natural gas. It traps heat in the atmosphere that otherwise would radiate into space.

Silicon Valley's program may be largely symbolic: Cars emit most of the carbon dioxide in Santa Clara County, and the companies and government entities who signed on can't do much about them. Also, a 20 percent reduction in the amount of carbon dioxide pumped into the South Bay's air is a tiny part of the world's total.

But because the new Silicon Valley effort is driven by companies known worldwide for innovation, supporters hope it will lend credence nationwide to those who advocate a more assertive U.S. strategy on global warming.

"You have to start somewhere," said Robert Parkhurst, global environmental program manager of Hewlett-Packard, in Palo Alto.

"Silicon Valley is the foundation of innovation. Here is an opportunity where regulators, industry and non-profit groups are working together. We hope it encourages other regions to follow."

The plan, which was crafted in large part by the Silicon Valley Manufacturing Group, is supported by Gov. Arnold Schwarzenegger's administration.

Conveying message

“The important message is that private industry thinks global warming is real and is willing to do something about it,” said Michelle St. Martin, spokeswoman for the California Environmental Protection Agency in Sacramento.

Participating Silicon Valley companies will report every year the amount of electricity and natural gas they use in their Santa Clara County facilities, along with the amount of gasoline and diesel their vehicle fleets burn. They will work then to voluntarily reduce energy use, which cuts carbon dioxide and smog emissions.

Companies are expected to take such steps as converting auto fleets to hybrid gas-electric vehicles; installing efficient fluorescent lights and motion detectors; and retrofitting buildings with more efficient heating and cooling systems, insulation, even “cool roofs” to reflect heat.

“You can do this cost-efficiently,” said Margaret Bruce, environmental coordinator for the Silicon Valley Manufacturing Group. “None of these businesses would do this if it hurt their bottom lines.”

Most scientists believe global warming is under way and is caused in part by human activity. Last year was the world's second hottest year since 1880, when measurements were first taken, according to the National Climatic Data Center in Asheville, N.C. The 10 hottest years on record have all occurred since 1990.

In 2001, the Intergovernmental Panel on Climate Change, a U.N. science group, said the Earth's average surface temperature rose 1 degree in the 20th century and could rise 2.5 to 10.4 degrees this century.

Scientists fear such warming could cause severe droughts, forest fires, coastal flooding because of rising sea levels from melting polar ice, disruption of wildlife and the spread of tropical diseases.

President Clinton signed the 1997 Kyoto global warming treaty but never submitted it to the U.S. Senate after the Senate voted 95-0 to oppose it unless China and India were included, which they are not. President Bush opposes the Kyoto treaty, saying it would harm the U.S. economy, and he has abandoned a campaign promise to have the U.S. EPA regulate carbon dioxide.

Organizers of the Silicon Valley plan estimate that Santa Clara County emitted 15.7 million tons of carbon dioxide in 2000, up from 13.4 million tons in 1990. The estimates are based on consumption of gasoline, diesel fuel, electricity and natural gas.

Achieving a 20 percent reduction won't be easy. Roughly 55 percent of the county's carbon dioxide emissions are from motor vehicles, estimates Peter Melhus, chairman of the Silicon Valley Environmental Partnership.

The remaining 45 percent is split between industry, commercial and residential use, so targeting businesses alone won't hit the target.

San Jose joins in

That's where the city comes in, said San Jose City Councilwoman Linda LeZotte. ``Changing behavior is a daunting task, but we've done it before with recycling and water conservation."

The city can expand mass transit, buy hybrid cars for its fleets and pass more energy-efficient building codes to start, LeZotte said.

Critics call the effort empty symbolism. Participating companies have not committed to individual targets yet for their own emissions, and when they do, there are no sanctions if they fail to reach them.

``I have no complaint when companies privately do what they want to do," said Jerry Taylor, environmental director of the Cato Institute, a Libertarian think tank in Washington, D.C. ``But I don't for a minute think this will have a great deal of impact on global temperature."

Calpine says the program makes sense, however.

``Inefficiency in the power sector or in anywhere is a signal of waste," said Peggy Duxbury, Calpine's director of government and environmental affairs. ``This allows businesses to become more aware of the power choices that exist and the carbon impacts."

Environmentalists approve.

``The federal government is operating under the terrible misconception that global warming pollution is good for the economy," said Ralph Cavanagh, energy director at the Natural Resources Defense Council. ``But now Silicon Valley is saying the opposite. And Silicon Valley has more credibility on the issue."

Los Angeles Times

Risk to State Dire in Climate Study

Unless checked, global warming could reduce the Sierra snowpack up to 89% by century's end, new research says.

By Miguel Bustillo

Times Staff Writer, August 17, 2004

Global warming could raise average temperatures as much as 10 degrees in California by the end of this century — sharply curtailing water supplies, causing a rise in heat-related deaths and reducing crop yields — if the world does not dramatically cut its dependence on fossil fuels, according to a study by 19 scientists published Monday.

The study, in the Proceedings of the National Academy of Sciences, contemplated the consequences of two distinct paths the industrialized world could take in response to a changing climate: maintaining its current reliance on coal, oil and gas, or massively investing in new technologies and alternative energy sources. Burning fossil fuels adds carbon dioxide to the atmosphere, which increases global temperatures by trapping more of the sun's heat.

Using two new computer models on climate change, the study focused exclusively on impacts in California, citing the state's economic importance, diverse climate and longtime reputation as a leader in environmental protection. The scientists' findings were stark. Human activities already have caused an increase in the amount of gases that contribute to global warming, and as population grows, some further increases are inevitable, the researchers said. Because of that, the state will have to endure not only higher temperatures but significantly longer summer heat waves no matter which path is taken, they warned.

Meanwhile, the Sierra Nevada will receive substantially less snowfall. Much of the state's water comes from mountain snow, and that snowpack could be reduced by 89% if greenhouse gases are not reduced, the study predicted. Rising temperatures could also produce more heavy precipitation in the spring, forcing managers of rapidly filling reservoirs to release water they would prefer to save for dry summer months.

"The state is not set up to deal with what could be a thorny problem over how to deal with shortages and diversion," said Michael Hanemann, director of the California Climate Change Center at UC Berkeley.

Nonetheless, the study concluded that aggressive measures to reduce greenhouse gas emissions could make a dent in the global warming problem.

"The question is, are you going to wait 25 years to solve this, or are you going to act on the vast preponderance of evidence that we are accumulating?" said one of the study's authors, Steve Schneider, co-director of Stanford University's Center for Environmental Science and Policy.

If the world continues to release high levels of heat-trapping gases, California's average statewide temperature is likely to rise 7 to 10 degrees Fahrenheit by the end of the century, the study concluded. On the other hand, if nations undertake large-scale reductions — which the scientists conceded would require major economic and behavioral changes — temperatures are still likely to rise 4 to 6 degrees by 2100, the study found.

"The choices that we make today and in the near future will determine the outcome of this giant experiment we are undertaking with our planet," said Katharine Hayhoe, an Indiana-based climate consultant who was the lead author of the report. An increase of 7 to 10 degrees "is enough to make many coastal cities feel like inland cities do today, and enough to make inland cities feel like Death Valley," Hayhoe said.

If fossil fuel use is not reduced, the study warned, heat waves in Los Angeles would become six to eight times more frequent, and heat-related deaths would increase five to seven times. The statewide average temperature, taking in day and night throughout the year, is about 60 degrees. It has slowly risen over the last two decades, climate records show. If it continues rising, scientists say it will exceed the range of historical variation within the next 10 years.

The report was produced by scientists who have specialized in the study of climate change. They include researchers from Stanford, UC Berkeley and the Scripps Institute of Oceanography in La Jolla, as well as government experts from the U.S. Department of Agriculture's Corvallis Forestry Sciences Laboratory in Oregon. While the findings were largely in accord with previous predictions about global warming in California, some conclusions were more extreme, a fact that some participants attributed to new, more detailed climate modeling.

"They are very dramatic, but we have seen similar numbers before in other studies," said Peter H. Gleick, president of the Oakland-based Pacific Institute for Studies in Development, Environment and Security and a 2003 MacArthur fellow who has been studying climate change since the 1980s.

"I guess the surprise is that even the so-called good news doesn't look so good. Those scenarios look very ugly for California. Every scenario shows California's snowpack going away."

Rising temperatures could also affect the state's multibillion-dollar farming industry, the scientists noted. A particular concern is the Napa and Sonoma wine grape harvest, which experts said could be hurt by even a slight uptick in temperature.

"Under higher temperatures, grapes fall off the vine more quickly," and the quality of the valuable fruit can be harmed, said Chris Field, director of the department of global ecology at the Carnegie Institution. Any sizable increase in temperatures "threatens California's status as the leading producer of wine grapes," he said.

Posted on Thu, Jul. 22, 2004

Schwarzenegger tops Bush in survey on environment
KEEPING DISTANCE FROM PRESIDENT MAY BE ADVANTAGE
By Paul Rogers
Mercury News

Californians have turned increasingly negative toward President Bush's handling of environmental issues, and give higher marks to Gov. Arnold Schwarzenegger, a fellow Republican, according to a new poll released today.

Overall, 53 percent of California residents said they disapprove of the president's views on the environment, with just 32 percent saying they approve. Only half as many Californians, 27 percent, say they disapprove of Schwarzenegger's handling of environmental issues, while 39 percent approve.

The poll by the Public Policy Institute of California, a non-partisan research center in San Francisco, surveyed 2,505 California residents by telephone between June 30 and July 14. With interviews conducted in five languages, it is among the largest statewide environmental surveys ever.

"Californians are looking to the state for environmental leadership," said Mark Baldassare, research director for the institute.

"It will be interesting to see how Arnold Schwarzenegger handles differences he might have with the White House. Our findings suggest the more he leans toward support of the president, the more support he will lose from independents and Democrats who are now viewing him favorably."

Bush has clashed with California leaders on a number of environmental topics in recent years, including offshore oil drilling, increased logging in the Sierra Nevada, global warming and air pollution.

Three-quarters of California's 35 million people live within an hour of the coast. They tend to support regulation of pollution, energy and development more than Americans in other regions, particularly the Rocky Mountains and the South, Bush's base.

Overall, the survey found 55 percent of Californians think protection of the environment should be given priority even at the risk of limiting economic growth, while 29 percent said economic growth should have priority, even if

the environment suffers.

Majorities of Latinos (62 percent), blacks (56 percent) and whites (55 percent) lean toward environmental protection over economic growth, while only 40 percent of Asian-Americans favor it, with 34 percent saying growth is more important.

The poll showed support for a number of Schwarzenegger initiatives. For example, 67 percent support allowing hybrid cars with solo drivers in carpool lanes; 66 percent support his plan to increase vehicle-license fees by \$6 for newer cars to put cleaner engines in older diesel buses, trucks and farm equipment; and 57 percent approve of his plan to build a "hydrogen highway" of 200 hydrogen fueling stations by 2010.

And 81 percent of state residents support a law requiring automakers to reduce global-warming emissions from new cars by 2009. The law was signed by former Gov. Gray Davis but is being put in place by Schwarzenegger, amid opposition from the auto industry and the Bush administration.

"This is very encouraging," said Terry Tamminen, Schwarzenegger's Environmental Protection Agency chief. "It is kind of like getting a Christmas card in July. You don't make your policies based on polls, but it is nice to see the validation."

Despite California's steady progress in reducing smog, the survey also found Californians consider air pollution the most important environmental issue facing the state, with residents in Los Angeles and the Central Valley the most concerned. More black and Latino residents said smog affected their health than white and Asian voters did.

"California is too polluted, too congested, too unworkable, and the negatives fall disproportionately on communities of color," said Fred Keeley, executive director of the Planning and Conservation League, an environmental group in Sacramento.

"Voters irrespective of race, ethnicity or region expect the state government to do more about it."

IF YOU'RE INTERESTED

To read the poll, go to

www.ppic.org .

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COMPANIES STILL
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The McGraw-Hill Companies

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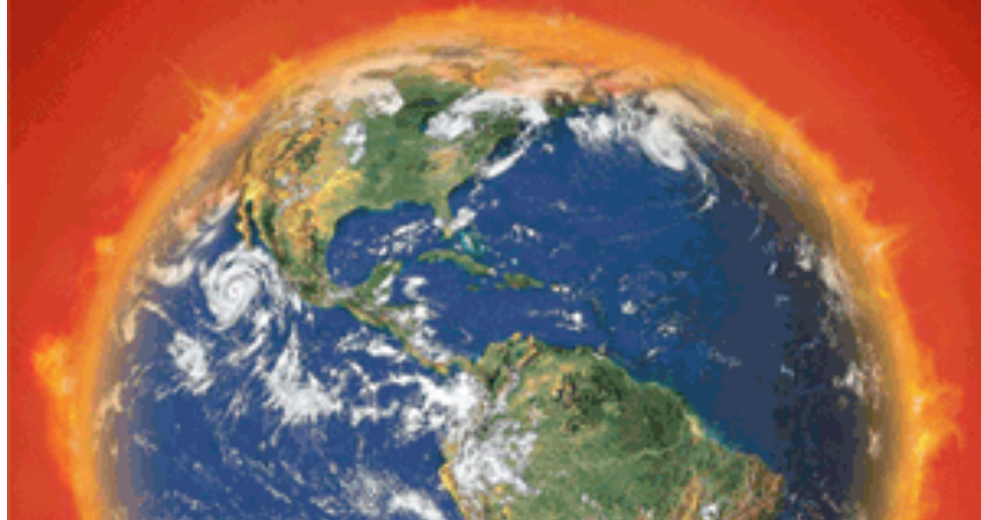
AUGUST 11, 2008

www.businessweek.com

GLOBAL WARMING

Why Business Is Taking It So Seriously

BY JOHN CAREY (P. 60)



SPECIAL REPORT

Global Warming

Consensus is growing among scientists, governments, and business that they must act fast to combat climate change. This has already sparked efforts to limit CO2 emissions. Many companies are now preparing for a carbon-constrained world

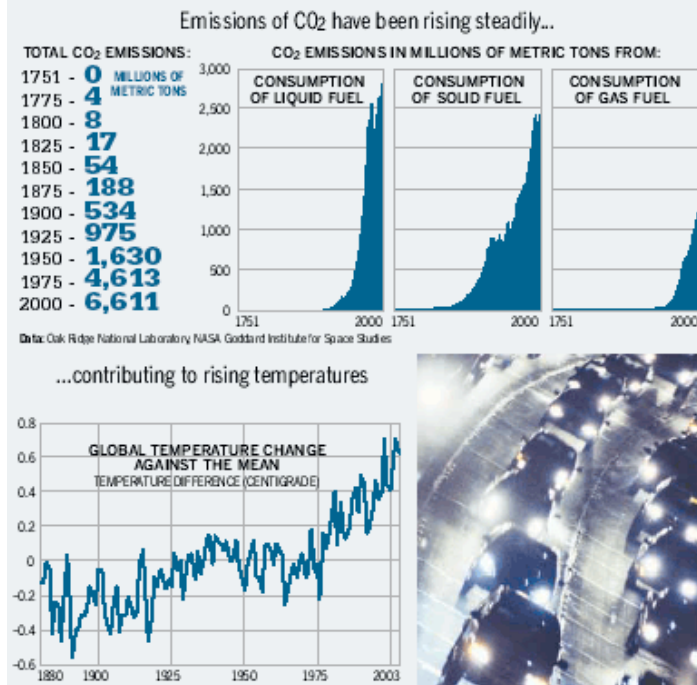
The idea that the human species could alter something as huge and complex as the earth's climate was once the subject of an esoteric scientific debate. But now even attorneys general more used to battling corporate malfeasance are taking up the cause. On July 21, New York Attorney General Eliot Spitzer and lawyers from seven other states sued the nation's largest utility companies, demanding that they reduce emissions of the gases thought to be warming the earth. Warns Spitzer: "Global warming threatens our health, our economy, our natural resources, and our children's future. It is clear we must act."

The maneuvers of eight mostly Democratic AGs could be seen as a political attack. But their suit is only one tiny trumpet note in a growing bipartisan call to arms. "The facts are there," says Senator John McCain (R-Ariz.). "We have to educate our fellow citizens about climate change and the danger it poses to the world." In January, the European Union will impose mandatory caps on carbon dioxide and other gases that act like a greenhouse over the earth, and will begin a market-based system for buying and selling the right to emit carbon. By the end of the year, Russia may ratify the Kyoto Protocol, which makes CO2 reductions mandatory among the 124 countries that have already accepted the accord. Some countries are leaping even further ahead. Britain has vowed to slash emissions by 60% by 2050. Climate change is a greater threat to the world than terrorism, argues Sir David King, chief science adviser to Prime Minister Tony Blair: "Delaying action for a decade, or even just years, is not a serious option."

There are naysayers. The Bush Administration flatly rejects Kyoto and mandatory curbs, arguing that such steps will cripple the economy. Better to develop new low-carbon technologies to solve problems if and when they appear, says Energy Secretary Spencer Abraham. And a small group of scientists still argues there is no danger. "We know how much the planet is going to warm," says the Cato Institute's Patrick J. Michaels. "It is a small amount, and we can't do anything about it."

But the growing consensus among scientists and governments is that we can—and must—do something. Researchers under the auspices of the National Academy of Sciences and the Intergovernmental Panel on Climate Change (IPCC) have pondered the evidence and concluded that the earth is warming, that humans are probably the cause, and that the threat is real enough to warrant an immediate response. "There is no dispute that the temperature will rise. It will," says Donald Kennedy, editor-in-chief of *Science*. "The disagreement is how much." Indeed, "there is a real potential for sudden and perhaps catastrophic change," says Eileen Claussen, president of the Pew Center on Global Climate Change: "The fact that we are uncertain may actually be a reason to act sooner rather than later."

MANY SCIENTISTS AGREE ON THE BASICS OF GLOBAL WARMING...



Plus, taking action brings a host of ancillary benefits. The main way to cut greenhouse-gas emissions is simply to burn less fossil fuel. Making cars and factories more energy-efficient and using alternative sources would make America less dependent on the Persian Gulf and sources of other imported oil. It would mean less pollution. And many companies that have cut emissions have discovered, often to their surprise, that it saves money and spurs development of innovative technologies. "It's impossible to find a company that has acted and has not found benefits," says Michael Northrop, co-creator of the Climate Group, a coalition of companies and governments set up to share such success stories.

That's why there has been a rush to fill the leadership vacuum left by Washington. "States have stepped up to fill this policy void, as much out of economic self-interest as fear of devastating climate changes," says Kenneth A. Colburn, executive director of Northeast States for Coordinated Air Use Management. Warning of flooded coasts and crippled industries, Massachusetts unveiled a plan in May to cut emissions by 10% by 2020. In June, California proposed 30% cuts in car emissions by 2015. Many other states are weighing similar actions.

Curbing Carbon
Remarkably, business is far ahead of

...AND THE EFFECTS ON THE PLANET COULD BE DIRE

1 FLOODING Seawaters could rise almost a meter in this century, and continue going up. Some coastal regions already see seasonal flooding, and the situation would get worse as water levels rise.

2 OCEAN DISRUPTIONS Coral reefs are under pressure from changes in water level and temperature. As more carbon goes into the sea, plankton could suffer, and that would affect species higher up the food chain.

3 SHIFTING STORM PATTERNS There are no data to show an increase in violent storms right now, but many scientists believe warming will bring more violent and unpredictable climate events.

4 REDUCED FARM OUTPUT In certain regions, each degree rise in the surface temperature brings a further drop in crop yields.

5 ANIMAL EXTINCTIONS Some species are already moving to cooler regions—and some aren't making it. Global warming may not yet be a factor, but it will almost certainly take its toll on species.

6 DROUGHTS In past periods of climate change, whole sections of Africa turned to desert. In extreme scenarios, areas that are currently fertile could become barren and dry.



Congress and the White House. Some CEOs are already calling for once-unthinkable steps. "We accept that the science on global warming is overwhelming," says John W. Rowe, chairman and CEO of Exelon Corp. ([EXC](#)) "There should be mandatory carbon constraints."

Exelon, of course, would likely benefit as the nation's largest operator of commercial nuclear power plants. But many other companies also are planning for that future. American Electric Power Co. ([AEP](#)) once fought the idea of combating climate change. But in the late 1990s, then-CEO E. Linn Draper Jr. pushed for a strategy shift at the No. 1 coal-burning utility -- preparing for limits instead of denying that global warming existed. It was a tough sell to management. Limits on carbon emissions threaten the whole idea of burning coal. But Draper prevailed. Why? "We felt it was inevitable that we were going to live in a carbon-constrained world," says Dale E. Heydlauff, AEP's senior vice-president for environmental affairs.

SOME COMPANIES ARE ALREADY MAKING CHANGES...



AMERICAN ELECTRIC POWER Is investing in renewable energy projects in Chile, exploring ways to burn coal more cleanly, and testing methods to sequester carbon.

FLORIDA POWER & LIGHT Invested in 42 wind facilities and energy efficiency, eliminating the need to build 10 power plants.

GENERAL ELECTRIC Purchased Enron's wind business and a solar energy company; doing research on earth-friendly hydrogen and lower-emission jet engines and locomotives.

GENERAL MOTORS Developing hydrogen-powered cars that don't emit CO₂.

INTEL Researching chemicals, for use on chip production lines, that don't contribute to greenhouse effect; developing ultra energy-efficient chips.

TOYOTA The world leader in hybrid gas-electric cars that deliver superior fuel efficiency.

Now, AEP is trying to accumulate credits for cutting CO₂. It's investing in renewable energy projects in Chile, retrofitting school buildings in Bulgaria for greater efficiency, and exploring ways to burn coal more cleanly. Scores of other companies are also taking action -- and seeing big benefits. DuPont ([DD](#)) has cut its greenhouse-gas emissions by 65% since 1990, saving hundreds of millions of dollars in the process. Alcoa Inc. ([AA](#)) is aiming at a 25% cut by 2010. General Electric Co. ([GE](#)) is anticipating growing markets for its wind power division and for more energy-efficient appliances. And General Motors Corp. ([GM](#)) is spending millions to develop hydrogen-powered cars that don't emit CO₂. A low-carbon economy "could really change our industry," says Fred Sciance, manager of GM's global climate issues team. As Exelon knows, the need for carbon-free power could even mean a boost for advanced nuclear reactors, which produce electricity without any greenhouse-gas emissions.

Global warming could change other industries, too. Even if the world manages to make big cuts in emissions soon, the earth will still warm several more degrees in coming decades, most climate scientists believe. That could slash agricultural yields, raise sea levels, and bring more extreme weather.

For businesses, this presents threats—and opportunities. Insurers may face more floods, storms, and other disasters. Farmers must adjust crops to changing climates. Companies that pioneer low-emission cars, clean coal-burning technology, and hardier crop plants—or find cheap ways to slash emissions—will take over from those that can't move as fast. "There is no silver bullet," says Chris Mottershead, distinguished adviser at BP PLC: "There is a suite of technologies that are required, and we need to unleash the talent inside business" to develop them.

Are we ready for this carbon-constrained, warming world? In some ways, yes. "There is a case to be made for cautious optimism, that we are making small steps," says BP's Mottershead.

Indeed, there is surprising consensus about the policies needed to spur innovation and fight global warming. The basic idea: mandatory reductions or taxes on carbon emissions, combined with a worldwide emissions-trading program. Here's how it could work: Imagine that each company in a particular sector is required to cut emissions by 20%. The company could meet the target on its own by becoming more energy efficient or by switching from fossil fuels to alternatives. But it could also simply buy the needed reductions on the open market from others who have already cut emissions more than required, and who thus have excess emissions to sell. Under a sophisticated worldwide carbon-trading system, governments and companies could also get sellable credits for planting trees to soak up carbon or for investing in, say, energy efficient and low-carbon technologies in the developing world. As a result, there is a powerful incentive for everyone to find the lowest-cost and most effective cuts—and to move to lower-carbon technologies.

... BUT GOVERNMENTS MUST SHOW LEADERSHIP



THE U.S. is funding research in new energy technologies, while calling for voluntary reductions in carbon emissions. But both parties have failed to make global warming a top policy priority. Some states are now calling for mandatory cuts and some are requiring that electricity be generated from alternative sources.

THE EUROPEAN UNION will begin a carbon-cutting and trading system in January. The EU has also made a deal with auto makers to cut vehicle emissions. In addition, Britain has been particularly aggressive, setting a long-term target of 60% reduction in carbon emissions.

CHINA is struggling to devise a road map that will allow for continued, rapid growth without huge rises in pollution and greenhouse-gas emissions.

JAPAN hosted and signed the Kyoto accord on emissions reductions in 1997. It hopes to meet its commitments through conservation efforts and increased use of nuclear power.

A key element is long-term predictability. If the world sets goals for the next 50 years, as Britain has done, and then implements the curbs or taxes needed to reach them, companies will figure out solutions. "Give us a date, tell us how much we need to cut, give us the flexibility to meet the goals, and we'll get it done," says Wayne H. Brunetti, CEO and chairman of Xcel Energy Inc., the nation's fourth-largest electricity and gas utility.

The Challenge

Such clear policy signals should bring major efficiency gains. Even 30% to 40% reductions in emissions by 2020 are possible, says Northrop. After that, he suggests, shifts to new energy technologies "can get the other 35% to 40% that we need to get to the low-carbon emission future."

The good news is that the world sees the threat and has begun to respond. The bad news is the magnitude of the task. Rising CO₂ levels in the atmosphere can't be slowed or reduced if only a few countries—or even all the industrialized nations—take action. The world must also figure out a way to permit growth in China, India, and other developing nations while lowering consumption of coal, gasoline, and other fossil fuels. "It's hard to think of a public policy issue that is harder than this one," says economist Jeffrey D. Sachs, director of Columbia University's Earth Institute.

Developing countries are responsible for just over one-third of the world's greenhouse-gas

HOW TO TRADE CARBON CREDITS



THE OPTIONS

Individual companies could meet the targets governments set in several ways. They could make cuts themselves, or they could buy rights to emit from others that have made more cuts than required. If the companies themselves cut more than they need to, they could sell that extra, just like any other commodity. They could also earn credits for planting trees that soak up carbon or for investing in low-emission technology in developing countries such as China. Those credits too could be bought and sold.

THE CUTS

Countries would set a mandatory target for reducing emissions of greenhouse gases by, say, 20% by 2020. Then governments would allocate those cuts among various industries, such as utilities, transportation, etc. Without specifying any technological solutions, governments would mandate, for instance, that cars must get higher mileage, or utilities emit less carbon.

THE BENEFITS

In addition to meeting reduction targets and lessening the threat of global warming, such a worldwide market-based trading system would help protect forests because the land might prove more valuable for capturing carbon than for ranching. It would also reduce world dependence on oil, spur development of energy-efficient technologies and energy alternatives, and help get developing nations engaged in carbon-reduction efforts.

emissions. But they emit less than one-fifth as much per person as do the industrialized nations. That will increase as their citizens buy more cars and consume more energy. By 2100, these countries will emit two or three times as much as the developed world, experts predict.

The Bush Administration and Congress have seized upon this issue as one reason for rejecting the Kyoto Protocol, which doesn't include the developing world. But international negotiators are beginning to talk about a plan that would go beyond Kyoto. The first step: showing that the industrialized world is serious about leading the way. That's one of the motivations behind Britain's vow to slash emissions by 60%, for example. Britain knows it can't solve this global problem by itself. But committing to

reducing CO₂ "is the right thing to do," says British Energy Minister Stephen Timms. It will also keep the country from becoming dependent on foreign oil when its North Sea oil fields start to run dry in a few years.

The next step is to help the developing world adopt new technologies. China and other nations could avoid the West's era of gas-guzzlers and dirty power plants by jumping to highly efficient clean coal plants and hybrid or advanced diesel cars. What's needed, experts say, are incentives to stimulate companies to make investments in advanced technology in developing countries. Once an international carbon-trading system is put in place, suggests Elliot Diringer, director of international strategies at the Pew Center on Global Climate Change, "we can reduce our own costs in the U.S. by allowing our companies to get the benefit of low-cost emissions abroad." Still, even if the developing world comes on board, staggering reductions in emissions are needed. Consider the math. For the past 450,000 years, the amount of carbon dioxide in the atmosphere has stayed below 290 parts per million (ppm). Now, we are spewing out more than 7 gigatons of carbon a year and large amounts of other greenhouse gases such as methane. As a result, the CO₂ levels in the air have climbed past 370 ppm. With no action, those levels could jump to 800 to 1,000 ppm by the end of the century. "We are already in dire straits," warns Columbia University geophysicist Klaus S. Lackner.

The Science

Can serious consequences be prevented? The British government, many scientists, and some executives are urging an all-out effort to keep the earth from warming more than two degrees Celsius. "The consequences of changes above two degrees are so dreadful that we need to avoid it," says BP's Mottershead. To hit that target, scientists calculate that CO₂ concentrations in the atmosphere must be kept from reaching 550 ppm—twice the preindustrial level. Getting there may require cutting the world's per capita emissions in half by 2100.

Of course, there is great uncertainty surrounding the science of global warming. No one can really know the size and consequences of climate change. "Without a doubt, it will be a very different world—a much warmer world," says David S. Battisti, atmospheric scientist at the University of Washington. But how much warmer? Which regions will be better or worse off? Will there be more floods and droughts? There's even a chance of surprises beyond the scary predictions of some computer models. "What's worrisome are the unknown unknowns," says Daniel P. Schrag, director of the Laboratory for Geochemical Oceanography at Harvard University. "We are performing an experiment that hasn't been done in millions of years, and no one knows exactly what's going to happen."

What scientists do know is that carbon dioxide and a number of other gases act like the roof of a greenhouse. Energy from the sun passes through easily. Some of the warmth that normally would be radiated back out to space is trapped, however, warming the planet. With no greenhouse gases at all in the atmosphere, we would freeze. The earth's average temperature would be a cold -17C, not the relatively balmy 14C it is today.

But the atmosphere is fiendishly complicated. If an increase in greenhouse gases also makes the sky cloudier, the added clouds may cool the surface enough to offset warming from CO₂. Tiny particles from pollution also exert warming or cooling effects, depending on where they are in

the atmosphere. Naysayers argue that it's just too soon to tell if greenhouse gases will significantly change the climate.

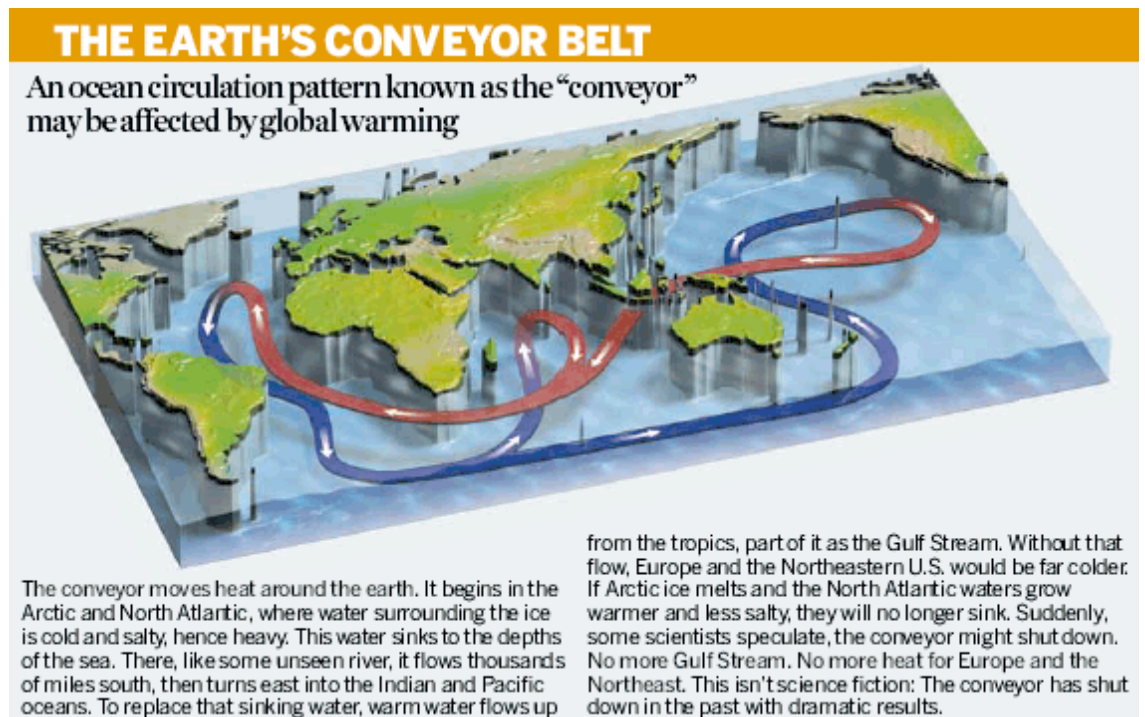
Yet the climate is changing. In the past 100 years, global temperatures are up 0.6 degrees Celsius. The past few decades are the warmest since people began keeping temperature records - altering the face of the planet.

For instance, the Qori Kalis glacier in Peru is shrinking at a rate of 200 meters per year, 40 times as fast as in 1978. It's just one of hundreds of glaciers that are vanishing. Ice is disappearing from the Arctic Ocean and Greenland. More than a hundred species of animals have been spotted moving to cooler regions, and spring starts sooner for more than 200 others. "It's increasingly clear that even the modest warming today is having large effects on ecosystems," says ecologist Christopher B. Field of the Carnegie Institution. "The most compelling impact is the 10% decreasing yield of corn in the Midwest per degree [of warming.]"

More worrisome, scientists have learned from the past that seemingly small perturbations can cause the climate to swing rapidly and dramatically. Data from ice cores taken from Greenland and elsewhere reveal that parts of the planet cooled by 10 degrees Celsius in just a few decades about 12,700 years ago. Five thousand years ago, the Sahara region of Africa was transformed from a verdant lake-studded landscape like Minnesota's to barren desert in just a few hundred years. The initial push—a change in the earth's orbit—was small and very gradual, says geochemist Peter B. deMenocal of Columbia University's Lamont-Doherty Earth Observatory. "But the climate response was very abrupt -- like flipping a switch."

The earth's history is full of such abrupt climate changes. Now many scientists fear that the current buildup of greenhouse gases could also flip a global switch. "To take a chance and say these abrupt changes won't occur in the future is sheer madness," says Wallace S. Broecker, earth scientist at Lamont-Doherty. "That's why it is absolutely foolhardy to let CO₂ go up to 600 or 800 ppm."

Indeed, Broecker has helped pinpoint

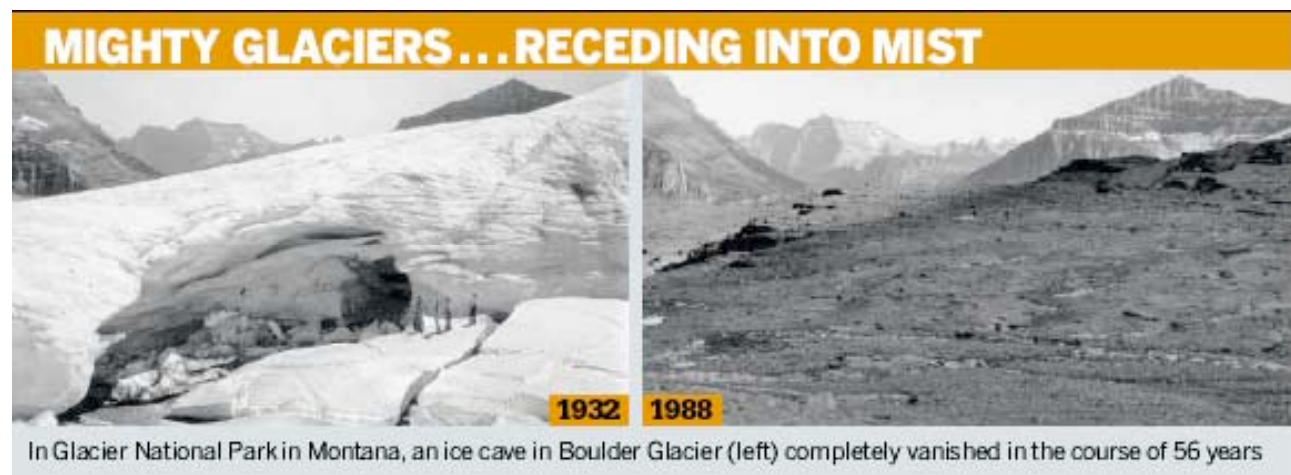


one switch involving ocean currents that circulate heat and cold. If this so-called conveyor shuts down, the Gulf Stream stops bringing heat to Europe and the U.S. Northeast. This is not speculation. It has happened in the past, most recently 8,200 years ago.

Can it happen again? Maybe. A recent Pentagon report tells of a "plausible...though not the most likely" scenario, in which the conveyor shuts off. "Such abrupt climate change...could potentially destabilize the geopolitical environment, leading to skirmishes, battles, and even war," it warns.

There are already worrisome signs. The global conveyor is driven by cold, salty water in the Arctic, which sinks to the bottom and flows south. If the water isn't salty enough -- thus heavy enough -- to sink, the conveyor shuts down. Now, scientists are discovering that Arctic and North Atlantic waters are becoming fresher because of increased precipitation and melting. "Over the past four decades, the subpolar North Atlantic has become dramatically less salty, while the tropical oceans have become saltier," observed William B. Curry of the Woods Hole Oceanographic Institution in recent congressional testimony. "These salinity changes are unprecedented in the relatively short history of the science of oceanography."

If the global switch does flip, an Ice Age won't descend upon Europe, scientists now believe. But that doesn't mean the consequences won't be severe. The sobering lesson from the past is that the climate is a temperamental beast. And now, with the atmosphere filling with greenhouse gases, "the future may have big surprises in store," says Harvard's Schrag.



In some scenarios, the ice on Greenland eventually melts, causing sea levels to rise 18 feet. Melt just the West Antarctic ice sheet as well, and sea levels jump another 18 feet. Currently shrinking glaciers may mean threats to water supplies for farmers and cities. Meanwhile, higher temperatures can cut crop yields, inhibit rice germination, and devastate biologically vital ecosystems like coral reefs. A paper in the July 16 issue of *Science* suggests that increasing CO₂ levels in the ocean could affect the growth of marine life, with consequences for the oceanic food chain.

Prevent or Adapt?

Perhaps the central debate in global warming now is not about the underlying science, but whether it's better—and cheaper—to take steps to prepare for or prevent climate change now, or

to simply roll with the punches if and when it happens. Opponents of greenhouse-gas curbs say we should be able to adapt to a warmer world or even cool it back down. "I'm convinced there will be engineering schemes that will allow our children's children to have whatever climate they want," says Robert C. Balling Jr., a climatologist at Arizona State University and coauthor of *The Satanic Gases*, which argues that the worries are vastly overblown.

Yes, human beings can adapt, advocates of immediate action retort. But why run even the small risk of catastrophic changes, when important steps can be taken at a modest cost now? A British government panel, for instance, concluded that the cost of its share of the task of limiting the level of CO₂ to 550 ppm would be about 1% of Britain's gross domestic product.

Compare that, says Sir David King, with the cost of a single flood breaking through the barrier in the Thames River—some 30 billion pounds, or 2% of current GDP. "Common sense says that it's time to purchase some low-cost insurance now," says economist Paul R. Portney, president of Resources for the Future.

The Business Response

When CEOs contemplate global warming, they see something they dread: uncertainty. There's uncertainty about what regulations they will have to meet and about how much the climate will change -- and uncertainty itself poses challenges. Insurance giant Swiss Re sees a threat to its entire industry. The reason: Insurers know how to write policies for every conceivable hazard based on exhaustive study of the past. If floods typically occur in a city every 20 years or so, then it's a good bet the trend will continue into the future. Global warming throws all that historical data out the window.

One of the predicted consequences of higher greenhouse-gas levels, for instance, is more variable weather. Even a heat wave like the one that gripped Britain in 1995 led to losses of 1.5 billion pounds, Swiss Re calculates. So an increase in droughts, floods, and other events "could be financially devastating," says Christopher Walker, a Swiss Re greenhouse-gas expert. That's why Swiss Re has been pressing companies to plan for possible effects of warming. Lenders may require beefed-up flood insurance before issuing mortgages. Chipmakers must find replacements for greenhouse-gas solvents. Utilities need to prepare grids to handle bigger loads and to boost power from renewable sources. Oil companies need to think about a future where cars use less gas -- or switch to hydrogen.

Swiss Re says the word is getting out, but not fast enough. In a recent survey, "80% of CEOs said that climate change was a potential risk, but only 40% were doing something about it," says Walker. "That's not good to hear for insurers."

Shareholders are also demanding that companies assess the risks of global warming and devise coping strategies. Moreover, multinationals have no choice but to plan for emissions cuts because of the coming EU carbon limits and possible restrictions on other greenhouse gases. Intel Corp. ([INTC](#)), for example, is worried the EU could ban the use of perfluorocarbons (PCF), chemicals used in chipmaking that are potent greenhouse gases. "We are looking for substitutes but don't have any yet," says Intel's Stephen Harper. "We decided to craft a

worldwide agreement to reduce PFC emissions 10% by 2010 -- upwards of a 90% reduction per chip. We wanted to show leadership and not have the EU regulate us."

Utilities face the greatest threat since the bulk of the power they generate comes from climate-changing fossil fuels. That's why AEP, Cinergy Corp. ([CIN](#)), and others are probing new technologies that would enable them to capture the carbon as coal is burned. That carbon could then be pumped deep into the ground to be stored for thousands of years. AEP has helped drill a test well in West Virginia to see if this sort of "carbon sequestration" is feasible and safe. And dozens of utilities are turning to alternative fuels, from wind to biomass. Florida Power & Light Co. now has 42 wind power facilities and has pushed energy efficiency, reducing emissions and eliminating the need to build 10 midsize power plants, according to Randall R. LaBauve, vice-president for environmental services. "We are seeing more companies committed to voluntary or even mandatory reductions," he says. Renewable energy, not counting hydropower, now produces only 2% of the nation's electricity. But some states -- along with Presidential candidate John Kerry -- are proposing that this be increased to as high as 20%.

Who Will Lead?

Even without mandates, scores of companies are taking concrete actions. "The science debate goes on, but we know enough to move now," explains AEP Chief Executive Michael G. Morris. It helps that thwarting global warming often brings cost savings and business benefits. Indeed, one goal of the newly formed Climate Group is to share tales of how climate strategies helped the bottom line. "The ones who have been at it for a while are finding they can do more than is asked for in Kyoto, and are achieving all kinds of benefits," says Northrop. BP, for instance, developed its own internal strategy for trading carbon emissions. That prompted a companywide search to find the lowest-cost reductions. Many of the measures were simple, such as identifying and plugging leaks. The overall result: a 10% reduction in emissions and a \$650 million boost to the company in three years.

Climate-savvy execs are hoping that when carbon limits are imposed, they'll get credit for actions already taken. But they're also anticipating big future opportunities. GE bought Enron Corp.'s wind business and a solar energy company in addition to doing research on hydrogen and lower-emission jet engines and locomotives. "We can help our customers meet the challenges they are going to face," says Stephen D. Ramsey, GE's environmental chief. In Arizona, startup Global Research Technologies LLC is developing systems that use solvents to grab CO₂ out of the air and isolate it for disposal.

Given this progress, many scientists wonder why the world—and especially the U.S.—isn't moving faster to reduce the chances that global warming will bring nasty surprises. The reason for the inaction is "not the science and not the economics," says G. Michael Purdy, director of Lamont-Doherty. "Rather it is the lack of public knowledge, the lack of leadership, and the lack of political will."

The Bush Administration counters that taking steps is simply too costly. Imposing limits on the U.S. would throttle growth and put America at a competitive disadvantage around the world. "No nation will mortgage its growth and prosperity to cut greenhouse-gas emissions," says Energy Secretary Abraham. In any case, the White House is not ignoring the issue. It has called for

voluntary reductions and it is funding research into new technologies. "If we are successful in developing carbon sequestration and cars that run on hydrogen fuel cells, that solves most of the problem with global warming," Abraham argues. "We may disagree on targets, but no one is going to reach any targets if we don't make these investments."

But most experts believe that mandatory curbs are essential and that they can be implemented at reasonable cost. Indeed, as states jump in with their own patchwork of rules, execs are beginning to say that it may be time to push for uniform national limits. That's what happened in 1990 with pollution rules. Faced with the prospect of dozens of state regulations, companies helped push for federal Clean Air Act amendments that reduced sulfur dioxide emissions through a market-based trading system. The law was a huge success. "We reduced emissions ahead of schedule and at lower cost," says Xcel Energy CEO Brunetti. "It's a great example of what can be done."

The same sort of trading scheme would bring similarly inexpensive greenhouse-gas reductions, many economists, politicians, and execs believe. The EU plan puts a cap on emissions for each country and allows emitters to buy and sell permits to release certain amounts of emissions. In the U.S., a market for trading carbon emissions -- the Chicago Climate Exchange -- already operates. And a bill to set up a cap-and-trade scheme, introduced by Senators John McCain and Joseph I. Lieberman (D-Conn.), is expected to win more votes than the 43 it garnered -- against the odds -- last year.

These steps are just the beginning, though. Even drastic measures -- such as implementing revolutionary energy technologies or grabbing carbon from the air -- won't stop this great global experiment from being conducted. "We won't cure this problem," cautions Henry Jacoby, co-director of Massachusetts Institute of Technology's Joint Program on the Science & Policy of Global Change. "The hope is that we can lower the risk of some of the more possible damaging outcomes." Companies and nations have begun to respond, but there is a long way to go, and only two choices: Get serious about global warming -- or be prepared for the consequences.

By John Carey, with Sarah R. Shapiro in New York

To: Interested Parties

From: Energy Foundation staff

Date: October 24, 2003

Re: West Coast Climate Initiative

The press coverage of the governors of California, Oregon, and Washington announcing a joint initiative to combat global warming emissions in the West Coast was quite good. Governor Gray Davis of California and Governor Gary Locke of Washington unveiled the initiative together in Los Angeles on Monday, September 22, 2003. Governor Ted Kulongoski submitted a statement of intent that was read by Davis. The event received favorable coverage in the local and national media including the *Wall Street Journal*, *Los Angeles Times*, *CNN*, *Seattle Post-Intelligencer*, *San Jose Mercury News*, *National Public Radio*, *Sacramento Bee*, and the *Associated Press*. We've so far counted over 20 print stories, 24 television stories, and NPR radio coverage. It continues to come up in numerous stories about energy and climate policy.

Print Coverage

Washington News Service
Wall Street Journal
The Seattle Press
The Olympian
Seattle Post Intelligencer
San Jose Mercury News
San Francisco Chronicle
Christian Science Monitor
Salem Statesman Journal
Sacramento Bee
Oakland Tribune
Newsday.com
Morning News Tribune
Marin Independent Journal
Los Angeles Times
Idaho State Journal
Dow Jones Newswire
Contra Costa Times
CentreDaily.com
Capital Reports
Bend Bugle
Albany Democrat Herald

Radio Coverage

NPR - Morning Edition, Talk of the Nation
NPR Local affiliates

Television News Coverage

CNN Headline News, National
KABC-ABC Los Angeles, CA
KCAL-IND 9 News Los Angeles, CA
KNBC-NBC Los Angeles, CA
KTTV-FOX Los Angeles, CA
KNTV-ABC San Francisco, Oakland, San Jose, CA
KCRA-NBC Sacramento, Stockton, Modesto, CA
KXTV-ABC Sacramento, Stockton, Modesto, CA
KGW-NBC Portland, OR
KOIN-CBS Portland, OR
KATU-ABC, Portland, OR
KPTV-FOX Portland, OR
KFMB-CBS, San Diego, CA
KGTV-ABC, San Diego, CA
KNSD-NBC, San Diego, CA
KGPE-CBS, Fresno-Visalia, CA
KHSL-CBS Chico-Redding, CA
KNVN-NBC Chico-Redding, CA
KCPQ-FOX Seattle-Tacoma, CA
KIRO-CBS Seattle-Tacoma, WA
KOMO-ABC Seattle-Tacoma, WA
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